

CLAIMS:

1. The activation of PECAM-1 for modifying or reducing or inhibiting platelet activation, or platelet aggregation, or platelet secretion.
2. The activation claimed in Claim 1 wherein the activation comprises cross-linking PECAM-1.
- 5 3. The activation claimed in Claim 1 or Claim 2 wherein the activation comprises antibody mediated cross-linking.
4. The activation claimed in Claim 3 wherein the antibody is specific for the ectodomain of PECAM-1.
- 10 5. The activation claimed in any preceding Claim further comprising a secondary antibody.
6. The activation claimed in any one of Claims 1 to 5 wherein the activation comprises phosphorylation of PECAM-1.
7. The activation claimed in Claim 6 wherein the phosphorylation occurs at the cytoplasmic tail of PECAM-1.
- 15 8. The activation claimed in either Claim 6 or Claim 7 wherein the phosphorylation occurs within the ITIM of PECAM-1.
9. The activation claimed in any one of claims 6 to 8 wherein PECAM-1 is phosphorylated at tyrosine residues.

- 10 The activation or cross-linking or phosphorylation of PECAM-1 claimed
in any of Claims 1 to 9 for the treatment of or for reducing the occurrence
of cardiovascular diseases such as thrombosis, vascular occlusion or
stroke, or for the treatment of or for reducing the occurrence of
5 haemostasis disorders.
11. The activation claimed in any one of Claims 1 to 10 wherein the activation
or cross-linking or phosphorylation of PECAM-1 modifies or inhibits or
decreases any one selected from the group comprising; total tyrosine
phosphorylation, platelet protein phosphorylation, platelet secretion from
10 dense granules, mobilisation of calcium from intracellular stores,
production of inositol phosphates, and regulation of integrin-linked kinase.
12. The activation or cross-linking or phosphorylation of PECAM-1 as
claimed in any one of Claims 1 to 11 for inhibiting or modifying or
reducing platelet activation stimulated by ITAM or non-ITAM containing
15 receptors or receptor agonists.
13. The activation or cross-linking or phosphorylation of PECAM-1 as
claimed in Claim 12 for inhibiting or reducing or modifying the activation,
aggregation or secretion of platelets in response to any one selected from
the group comprising; collagen, collagen related peptide (CRP),
20 convulxin, thrombin, ADP, thromboxane mimetics, U46619,
immunoglobulin G FcγRIIA (FcγRIIA), immunoglobulin E FcεRI
(FcεRI), tyrosine kinase, GPVI- mediated signalling, and thrombin
receptor mediated signalling.
14. A PECAM-1 activator for use in accordance with any preceding claim.
- 25 15. An activator as claimed in claim 14 wherein the activator is selected from

- the group comprising; a small molecule, an antibody, an antibody derivative, an agonist, an antagonist, a ligand, a DNA sequence, a complementary DNA sequence, an antisense DNA sequence, a probe, a protein sequence, a recombinant extracellular domain or domains of PECAM-1, a catalyst,
- 5 shear, oxidative stress, FcεRI, the high affinity receptor for FcεRI, an activated form of the high affinity receptor FcεRI , FcγRIIA, the low affinity receptor for FcγRIIA and an activated form of the low affinity receptor FcγRIIA .
16. The activator claimed in any Claims 14 or 15 for the treatment of or for
10 reducing the occurrence of cardiovascular diseases such as thrombosis, vascular occlusion or stroke, or for the treatment of or for reducing the occurrence of haemostasis disorders.
17. The activator Claimed in any one of Claims 14 to 16 for use in the
15 manufacture of a medicament for the treatment of or for reducing the occurrence of cardiovascular diseases such as thrombosis, vascular occlusion or stroke, or for the treatment of or for reducing the occurrence of haemostasis disorders.
18. A screen for activators of PECAM-1 comprising PECAM-1, an
20 ectodomain of PECAM-1, the cytoplasmic tail of PECAM-1, the ITIM of PECAM-1, an active site of PECAM-1, a recombinant extracellular domain or domains of PECAM-1, or a part or derivative thereof and means for detecting activation or cross-linking or phosphorylation or tyrosine phosphorylation of PECAM-1, an ectodomain of PECAM-1, the cytoplasmic tail of PECAM-1, the IPIM of PECAM-1, an active site of
25 PECAM-1, a recombinant extracellular domain or domains of PECAM-1, or a part or derivative thereof.